

Conservation Concerns: Populations generally are stable or increasing in most areas.

American Bittern (*Botaurus lentiginosus*) - Special Concern, S3B,SZN

Brief Description: A stocky medium sized heron with a black neck stripe and outer wing blackish in flight.

Distribution: Eastern and central U.S.

Habitat: Marshy reedy lakes, wet meadows, and sedge meadows.

State Records: Occurs statewide, but local in the southwest, and declining in the southeast. Declining steadily overall in past 15 years. Most recent records are from inventories conducted for state forest master plans in the NW, NE and WC parts of the state.

Wolf River Basin Records: 6 records from the late 1990s to present.

Conservation Concerns: Shoreline development, wetland alteration, disturbance, recreational boating, or alteration of water quality.

Red-shouldered Hawk (*Buteo lineatus*) - Threatened, S1N,S3S4B

Brief Description: A large broad-winged hawk with rufous shoulders and black tail with narrow white stripes.

Distribution: Eastern and central U.S. and southeastern Canada.

Habitat: Extensive woodlands with frequent ponds, wooded river bottoms, and timbered swamps.

State Records: Range is statewide. 310 records total.

Wolf River Basin Records: 39 records, all last observed in 2000.

Conservation Concerns: Fragmentation of large forest blocks, stand thinning.

Black Tern (*Chlidonias niger*) - Special Concern, S3B,SZN

Brief Description: A small tern with a dark, sooty gray body.

Distribution: Breeds from the northern U.S. up through middle Canada.

Habitat: Freshwater marshes and lakes.

State Records: Range is statewide. 44 records total.

Wolf River Basin Records: 15 populations observed between 2001 and 1984.

Conservation Concerns: Water level manipulations, nest depredation.

Northern Harrier (*Circus cyaneus*) - Special Concern, S2N,S3B

Brief Description: A medium sized thin bird of prey, pale-gray to brown to cinnamon in color, always with a white patch on rump.

Distribution: Holarctic

Habitat: Forages in open habitats. Nests on ground on hummocks in large treeless areas such as meadows, shrub carrs, grasslands, sedge meadows, tall marsh, etc.

State Records: In WI statewide, but rare in heavily forested or plowed landscapes. Rare in the south.

Wolf River Basin Records: 2 records, 1 from 2001 and 1 from 1994.

Conservation Concerns: Succession of grasslands, activities that disturb the ground during the nesting season, activities that concentrate ground predators, wetland alteration, or direct disturbance.

Yellow-billed Cuckoo (*Coccyzus americanus*) - Special Concern, S3B,SZN

Brief Description: Slim sinuous look, brown back, and plain white breast. Rufous in wings, large white spots at tips of black tail feathers, and yellow lower mandible on the slightly curved bill.

Distribution: South Canada to Mexico, West Indies.

Habitat: Woodlands, thickets, farms, and orchards.

State Records: Occurs statewide, mainly distributed in southern and western counties.

Wolf River Basin Records: 1 record from 1984.

Conservation Concerns: Uncertain.

Yellow Rail (*Coturnicops noveboracensis*) - Threatened, S1B,SZN

Brief Description: A small buff colored rail with a short greenish bill. A white wing patch is visible in flight.

Distribution: Breeds locally from the northern central U.S. through Canada.

Habitat: Extensive grassy freshwater marshes and meadows with little shrub encroachment.

State Records: Known from eleven counties since 1935. Probably less than fifty breeding pairs now, primarily on four WDNR managed sites. Breeding difficult to document.

Wolf River Basin Records: 1 record from 1994.

Conservation Concerns: Small population size and isolation. Threats to current and potential habitat, especially fragmentation, succession, and impoundment.

Cerulean Warbler (*Dendroica cerulea*) - Threatened, S2S3B,SZN

Brief Description: A small songbird with breeding males recognized by blue back, white undersides and a narrow dark neck stripe.

Distribution: Eastern and central U.S.

Habitat: Large stands of mesic hardwoods and floodplain forest.

State Records: Uncommon and largely restricted to the southern two thirds of the state with occasional breeding season records in the northern third. Has been expanding its range northward. 77 records.

Wolf River Basin Records: 15 populations, all last observed in 2000.

Conservation Concerns: Canopy opening, fragmentation, logging of nest sites. Management practices that result in seasonal disturbance of nesting habitat. Rangeland, this species has undergone a 70% decline since 1966, mostly occurring between 1966 and 1979.

Acadian Flycatcher (*Empidonax virescens*) - Threatened, S2S3B,SZN

Brief Description: A small bird (flycatcher). Olive above, with yellow eye ring, two buffy or whitish wing bars; very long primaries.

Distribution: Middle and eastern U. S.

Habitat: Key habitat requirements are moist deciduous forests with a moderate understory, generally near a stream.

State Records: 34 records occur in the southern half of the state.

Wolf River Basin Records: 1 record from 2000.

Conservation Concerns: The primary threat to this species, as with other neotropical migrants, is habitat degradation and fragmentation (and therefore indirectly, cowbird parasitism and nest depredation).

Spruce Grouse (*Falcipennis canadensis*) - Threatened, S1S2B,S1S2N

Brief Description: A dusky grouse. Males have a black breast and a red skin comb above the eyes. Females are thickly barred. Both sexes have a rusty band on the tip of the tail.

Distribution: Canada and far northern U.S.

Habitat: Conifer forests, muskegs, etc.

State Records: Restricted to the northern third tier of counties. Observations are infrequent.

Wolf River Basin Records: 1 record from 1989.

Conservation Concerns: Misidentification by hunters, loss of conifer forests.

Common Moorhen (*Gallinula chloropus*) - Special Concern, S3B,SZN

Brief Description: A henlike, dark bird. In adults, the head and neck are black, the back brownish-olive, and the underparts slate, with a white streak on the flanks. The bill is red with a yellow tip, and there is a red forehead shield. Feet are large and yellow in adults, dusky in juveniles, which are paler and browner than adults.

Distribution: Breeds from central California, northern New Mexico, Texas, Kansas, Iowa, southern Wisconsin, southern Ontario, New England, and Nova Scotia south through most of South America.

Habitat: Freshwater marshes, canals, quiet rivers, lakes, ponds, primarily in areas of emergent vegetation and grassy borders. Infrequently flies. Nests usually among marsh plants over water, occasionally in shrub in or near water. Builds nestlike platforms on which to brood young.

State Records: 7 populations documented in the Southeastern portion of the state. All populations are from the 1990s to current.

Wolf River Basin Records: 4 populations in the lower end of the basin, all from 2000 and 2001.

Conservation Concerns: Local declines are occurring due to degradation and loss of wetlands.

Bald Eagle (*Haliaeetus leucocephalus*) - Special Concern, S2N,S3B

Brief Description: A very large bird of prey with dark back and undersides. Head white or dark in immature. Adults unmistakable with snowy white heads and tails.

Distribution: North American in distribution. In eastern U.S. generally northern or coastal.

Habitat: Sites with large area of clear surface water. Typically in forested lake complexes or along larger streams in WI.

State Records: Around 700 nesting records concentrated in northern third of the state with scattered outliers in the western, southern and central portions.

Wolf River Basin Records: 24 records from 1992.

Conservation Concerns: Logging, shoreline development, wetland alteration, disturbance, recreational, boating, or alteration of water quality, toxic compounds.

Least Bittern (*Ixobrychus exilis*) - Special Concern, S3B,SZN

Brief Description: The smallest member of the heron family, the least bittern ranges between 28-36 cm in length. Bitterns also have a laterally compressed trunk and short legs. The head is slightly crested. Whitish, highly visible lines border the scapular feathers. The crown and back of the female is purple-chestnut, whereas those of the male are black.

Distribution: Very large range (southern Canada to South America) and common in many areas.

Habitat: Nest in freshwater wetlands with dense, tall growths of emergent vegetation interspersed with open water.

State Records: 16 recent records in the central and northern portions of the state

Wolf River Basin Records: 7 records from 2000.

Conservation Concerns: Jeopardized by draining, filling, and degradation of marshes and probably by environmental contaminants and unnaturally high densities of predators such as raccoons (Evers 1992). May be negatively impacted by high water levels in the Great Lakes (Sandilands and Campbell 1988).

Red-headed Woodpecker (*Melanerpes erythrocephalus*) - Special Concern, S3B,SZN

Brief Description: Entire head is red. Back solid black, white rump. Large square white patches are conspicuous on the Distribution: East of the Rockies from south Canada to Gulf States. Partial migrant in the north.

Habitat: Mature oak woodlots preferred. Also found in groves, farm country, orchards, shade trees in towns, and large scattered trees.

State Records: Most prevalent in southwestern and central regions.

Wolf River Basin Records: 1 record from 1984.

Conservation Concerns: Uncertain.

Yellow-crowned Night-heron (*Nyctanassa violacea*) - Threatened, S1B,SZN

Brief Description: A stocky heron with a straight, stout, all-dark bill; breeding adult has buffy-white crown, black face with white cheek patch, gray under parts, and long white head plumes; juvenile has dusky upper parts with fine white streaks and spots, and dark-streaked under parts.

Distribution: Found in central U.S. and Canada.

Habitat: Swamps and river bottomlands.

State Records: 7 records in the 1980s from the Southwestern corner of the state.

Wolf River Basin Records: 1 record from 1984.

Conservation Concerns: Threats include disturbance and loss/degradation of nesting and foraging habitat. Probably susceptible to reduced reproductive success caused by pesticide contamination.

Black-crowned Night-heron (*Nycticorax nycticorax*) - Special Concern, S2B,SZN

Brief Description: A medium-sized wading bird with a short neck, short legs, and a stout, straight, pointed bill. Breeding adults have a black crown and back, with white hindneck plumes, gray wings, and white to grayish underparts.

Distribution: Breeds from Washington, southern Idaho, Saskatchewan, Michigan, and Nova Scotia south to southern South America, including Antilles; also Hawaii.

Habitat: Marshes, swamps, wooded streams, shores of lakes, ponds. Roosts by day in swampy woodland. Eggs are laid in a platform nest in groves of trees near swamps, marsh vegetation, clumps of grass on dry ground, orchards, and in many other situations. Nests usually with other heron species.

State Records: 45 documented populations in the state, mostly concentrated in the South East corner and the Door peninsula.

Wolf River Basin Records: 1 population from 2001.

Conservation Concerns: Human disturbance of nesting colonies may inhibit laying and increase nest abandonment, egg depredation, and nestling mortality.

Osprey (*Pandion haliaetus*) - Threatened, S3S4B,SZN

Brief Description: A nearly eagle-sized bird of prey with dark back and white undersides. Head white with dark line through eye.

Distribution: Nearly cosmopolitan. In eastern U.S. generally northern or coastal.

Habitat: Sites with large area of clear surface water. Typically in forested lake complexes or along larger streams in WI.

State Records: Nesting population restricted to northern third of the state with scattered outliers in the west and central portions.

Wolf River Basin Records: 31 populations last observed in 1992.

Conservation Concerns: Logging, shoreline development, wetland alteration, disturbance, recreational, boating, or alteration of water quality, toxic compounds.

Gray Jay (*Perisoreus canadensis*) - Special Concern, S3B,SZN

Brief Description: A large fluffy gray bird of the northern woods. Larger than a robin with a black patch across the back of the head and a white forehead.

Distribution: Boreal forests of North America.

Habitat: Boreal forests of spruce and fir. Also uses white cedar. Uncommon in pines and hardwoods.

State Records: Uncommon and largely restricted to the northern fifth of the state with occasional breeding season observations elsewhere.

Wolf River Basin Records: 2 records from 1994.

Conservation Concerns: Conversion of spruce/fir/cedar dominated forests to hardwoods. Management practices that result in seasonal disturbance of nesting habitat.

Black-backed Woodpecker (*Picoides arcticus*) - Special Concern, S2B,SZN

Brief Description: Solid black back and barred sides. Males have yellow caps.

Distribution: Far northern north central and northeastern U.S. and Canada.

Habitat: Fir and spruce boreal forests, tamarack bogs, jack pine forests.

State Records: Year round resident of the northern third tier of counties. Can be found occasionally throughout the state, but largely absent from the driftless area.

Wolf River Basin Records: Only documented in the basin matrix.

Conservation Concerns: Uncertain.

Prothonotary Warbler (*Protonotaria citrea*) - Special Concern, S3B,SZN

Brief Description: A small bird with entire head and breast deep yellow, almost orange. Wings blue-gray; no bars. Females duller than males.

Distribution: Great Lakes area to the Gulf States in the U.S.

Habitat: River bottomlands, and swamps.

State Records: Mainly distributed in southwest and south-central Wisconsin, north along the Mississippi River. Numerous scattered records from the mid part of the state along the Wolf River. Most of the 26 records occurred in 2000.

Wolf River Basin Records: 23 populations, all last observed in 2000.

Conservation Concerns: Logging, shoreline modification.

King Rail (*Rallus elegans*) - Special Concern, S2B,SZN

Brief Description: A large rusty colored rail with a long slender bill.

Distribution: Breeds locally from Kansas, eastern Nebraska, Iowa, and Minnesota east across the northern

U.S. and southern Ontario to southern New England, south to southern Texas, southern Louisiana, central Mississippi, central Alabama and southern Florida.

Habitat: Freshwater marshes, upland-wetland marsh edges, ricefields or similar flooded farmlands, shrub swamps. Nest is an elevated platform, often with a canopy and ramp, attached to plants growing in shallow water (0-25 cm) or placed in a tussock or other waterside vegetation.

State Records: 4 populations documented in the state. All but one are recent (late 1990s to 2001).

Wolf River Basin Records: 2 populations documented in the lower Wolf portion of the basin. Both records are from 2000.

Conservation Concerns: Decline in Midwest has been due to habitat destruction and drainage of wetlands. Perhaps environmental contaminants and unnaturally high densities of predators such as raccoons also have negatively impacted populations.

Forster's Tern (*Sterna forsteri*) - Endangered, S2B,SZN

Brief Description: Similar to Common Tern, but primaries lighter than the rest of the wing. Tail grayer, bill more orange. Frosty wing tips. In fall and winter they have a black mask through eye and ear (not around nape).

Distribution: Western Canada, western U.S., and central Atlantic coast to Tamaulipas. Numerous disjunct breeding populations in the Great Lakes region.

Habitat: Nests in marshes, also found in lakes, bays, beaches, and oceans.

State Records: Distributed along Lake Superior, the Mississippi River, Lake Michigan, and inland SW from Green Bay.

Wolf River Basin Records: 3 records between 1984 and 2000.

Conservation Concerns: Wetland draining, fluctuating water levels, predators, loss of emergent aquatic vegetation.

Great Gray Owl (*Strix nebulosa*) - Special Concern, S1B,SZN

Brief Description: Largest North American owl. Dusky gray, heavily striped lengthwise on the underparts. Round-headed, without ear tufts, the strongly lined facial disks are very large proportionately, dwarfing the yellow eyes.

Distribution: Boreal forests of the northern hemisphere.

Habitat: Dense conifer forests, adjacent meadows, bogs.

State Records: Records widespread and scattered, vast majority from the northern half of the state.

Wolf River Basin Records: 1 record from 1995.

Conservation Concerns: Uncertain.

Barn Owl (*Tyto alba*) - Endangered, S1B,S1N

Brief Description: A medium-sized owl with white heart-shaped face, dark eyes, no ear tufts, and long-legs.

Distribution: Nearly worldwide in tropical and temperate regions, near the northern limits of its range in the U.S. halfway up the state of Wisconsin.

Habitat: Woodlands, groves, farms, barns, towns, and cliffs.

State Records: Uncommon, 29 scattered records, but majority from far southern WI.

Wolf River Basin Records: 2 records from the late 1970s and the early 1980s.

Conservation Concerns: Uncertain.

Fish

lake sturgeon (*Acipenser fulvescens*) - Special Concern, S3

Brief Description: Large, heavy, torpedo shaped fish. Short snout, conical. Lower lip with two lobes. Barbels on lower snout, smooth, 4. Upper lobe of tail fin pointed without threadlike (filamentous) extension.

Distribution: Great Lakes Region, large Mississippi River tributaries south to southern Arkansas, large portion of Canada.

Habitat: Inhabits large rivers and lakes. It lives in shoal water in the Great Lakes. Inland it shows a preference for the deepest midriver areas and pools.

State Records: Occurs in the Mississippi, Lake Michigan, and Lake Superior drainages. It has been introduced into lakes where natural reproduction does not occur. It is common in the Menomonee River, lower Wolf River, Lakes Poygan and Winnebago, Lake Wisconsin (Lake Wisconsin), St. Croix River to Gordon Dam. It is uncommon to rare in the lower Wisconsin River, Mississippi River, the Madison lakes, and Lakes Michigan and Superior.

Wolf River Basin Records: 55 records between 1980 and 1991. John Lyons also reports 3 observations in the study area in 2000 and 2001.

Conservation Concerns: Illegal harvest.

pirate perch (*Aphredoderus sayanus*) - Special Concern, S2S3

Brief Description: A small fish with a stout body, slightly compressed laterally, elevated at base of dorsal fin; caudal peduncle thick. Mouth large, oblique, with lower jaw projecting. Back dark olive to black; side lighter; belly yellowish. Two narrow, vertical bars separated by a pale interspace at base of caudal fin. Dorsal and caudal fins slate colored, other fins more lightly pigmented.

Distribution: Great Lakes Region, Mississippi River basin, southeastern U.S., Mid-Atlantic States.

Habitat: Oxbows, overflow ponds, sloughs, marshes, ditches, and the pools of low gradient streams. It is found over sand, or over soft, muck bottoms covered with organic debris. Frequently it is associated with brush piles or dense aquatic vegetation. Prefers quite water, seldom in sluggish or stronger current.

State Records: Occurs in Mississippi River and Lake Michigan drainage basins, where it reaches the northern limit of its distribution. The principal population centers are the lower Wisconsin River and its tributaries, and the Des Plaines River watershed.

Wolf River Basin Records: 1 older record from 1970.

Conservation Concerns: Uncertain.

lake chubsucker (*Erimyzon sucetta*) - Special Concern, S3

Brief Description: Body moderately deep, slightly compressed; tapered at both ends. Snout tapered to blunt point, mouth subterminal, slightly oblique. Scales square in appearance, with both dorsal and ventral edges straight and parallel to one another. Back olive brown; sides lighter and more yellow; belly olive yellow. Scales prominently dark edged. Fins olive to slate colored.

Distribution: Great Lakes Region, Mississippi River basin, Southeastern U.S.

Habitat: Lakes, oxbow lakes, and sloughs of large rivers and quiet streams. It is frequently associated with dense vegetation over bottoms composed of sand or silt mixed with organic debris.

State Records: Occurs in the Mississippi River and Lake Michigan drainage basins. In the former, it is

confined mainly to the lower Wisconsin River and its tributaries and the upper Rock River and Illinois-Fox River watersheds. This species reaches the northern limit of distribution in the Wolf River system of the Lake Michigan drainage basin.

Wolf River Basin Records: 6 older records from the mid 1970s to the early 1980s.

Conservation Concerns: Uncertain.

western sand darter (*Etheostoma clarum*) - Special Concern, S3

Brief Description: A small, slender, almost cylindrical, pallid fish with a distinct opercular spine.

Distribution: Spotty distribution in streams from Wisconsin and Kentucky to Texas and Mississippi.

Habitat: Usually in medium and large rivers; most common in slight to moderate current over sandy bottom, though also known from areas of gravel or silt. Also recorded from quiet margins of drainage canals and shallow backwaters. Buries in sand.

State Records: 12 state records, all in medium/large rivers in the western half of the state.

Wolf River Basin Records: 4 records from 1979-1994. John Lyons reported 6 observations in 2000-2001.

Conservation Concerns: Habitat degradation is considered to be the primary cause of decline (siltation, impoundments, channelization, etc.).

least darter (*Etheostoma microperca*) - Special Concern, S3

Brief Description: Adults 1.5-2" in length, compressed laterally. Olive -brown back and sides with scattered dark brown specks and zigzag markings, series of small dusky blotches on sides and four short dusky bars radiating from the eye.

Distribution: Great Lakes region, Mississippi River valley as far south as Oklahoma.

Habitat: Weedy portions of lakes and clear streams with sluggish flow.

State Records: Scattered records throughout the state, generally avoids the unglaciated region, and not reported since 1935 from the Lake Superior drainage basin. Bulk of records in southeastern Wisconsin and the Wolf River system.

Wolf River Basin Records: 6 older records from the 1970s.

Conservation Concerns: Statewide abundance trends uncertain. Appears to have recently disappeared from several rock county locations. This species is relatively sensitive to environmental perturbations such as watershed and shoreline

banded killifish (*Fundulus diaphanus*) - Special Concern, S3

Brief Description: Adults between 2-2.5". Body is light olive on the back and sides and yellow-white below with 12 - 20 narrow vertical bars on the body.

Distribution: Northeastern U.S. and far southeastern Canada. Great Lakes region west to eastern North and South Dakota.

Habitat: Shoal waters and estuaries of large lakes. Quiet backwaters and sections of slow current in medium to large streams. Prefers open broad, sandy shallows during the warm season.

State Records: All modern records from the eastern half of Wisconsin.

Wolf River Basin Records: 8 older records from the mid 1970s.

Conservation Concerns: Species declining in southern Wisconsin, and has been extirpated at several sites. Shoreline development and modification of littoral-zone habitats are probably major factors.

longear sunfish (*Lepomis megalotis*) - Threatened, S2

Brief Description: Thin, deep-bodied sunfish. Opercular "ear flap" flexible and much elongated in adults. Black olive to rusty brown, sides lighter, breast and belly yellow to orange red. Back and sides with specks of yellow, orange, emerald and blue.

Distribution: A broad swath from western New England southwest to the Mexican border. Populations in the western Great Lakes regions are apparently isolated.

Habitat: Prefer clear, shallow, moderately warm, still water of streams, rivers or lakes over rubble, gravel and sand with moderate aquatic vegetation.

State Records: Occurs in three widely separated population centers, in southeastern, east-central, and northwestern Wisconsin. Populations in former strongholds in southeastern Wisconsin appear to be declining. Specimens have been found in other river systems, but they are infrequently collected, and are often *Lepomis* sp. hybrids.

Wolf River Basin Records: 2 older records, 1 from 1926 and 1 from 1979.

Conservation Concerns: Hybridization in small populations is a concern. They are intolerant to turbid water from heavy agriculture within their range. They resemble other sunfish; they are often caught and kept by young anglers.

striped shiner (*Luxilus chrysocephalus*) - Endangered, S1

Brief Description: Resemble related, more common shiners but differ in having large predorsal scales (fewer than 17). Heavily pigmented tip of chin and numerous parallel dark lines on the sides converging at the mid-back rather than a mid-dorsal stripe and one or two lateral dark stripes. Green or blue dorsally, sides blue silver, belly white silver. Prominent mid-dorsal, broad and slate colored stripe.

Distribution: Great Lakes Region extending south almost to the Gulf of Mexico, and west to central Oklahoma.

Habitat: Clear to slightly turbid waters, shallow water over gravel, rubble, boulders, silt, or sand. Often seen in dense aquatic vegetation.

State Records: Fox River watershed and the Milwaukee River and tributaries.

Wolf River Basin Records: 2 records.

Conservation Concerns: Range appears to be shrinking, may be due to a combination of increasing siltation, turbidity, and temporary drying of small creeks during late summer. Agricultural pollution along rivers should be minimized.

redfin shiner (*Lythrurus umbratilis*) - Threatened, S3

Brief Description: A small, deep-bodied, thick-skinned, whitish shiner (fish) with small, closely crowded predorsal scales. Snout bluntly pointed. Black bluish gray dorsally, sides and belly silvery.

Distribution: Great Lakes Region extending south almost to the Gulf of Mexico, and west to central Oklahoma.

Habitat: Found occasionally in clear water, but more often in turbid areas at depths of 4-60 inches (0.1-1.5m) over silt, gravel, and rubble. Occur in pool areas of low-gradient, medium size streams.

State Records: Of the state's 73 records, none are in the last 20 years. At the northern limit of its range in the Mississippi River and Lake Michigan drainage basins. Disjunctly distributed in the southern half of Wisconsin.

Wolf River Basin Records: 6 records from 1979.

Conservation Concerns: During most of the year they are tolerant of siltation, but they require clear water during spawning, which may factor into their scant occurrence.

shoal chub (*Macrhybopsis hyostoma*) - Threatened, S2S3

Brief Description: A fish approximately 7.6 cm in length. *Macrhybopsis tetranema*, *M. hyostoma*, *M. marconis*, and *M. australis* formerly were included in *M. aestivalis* (gravel chub) but were recognized as distinct species by Eisenhour (1997) with the Wisconsin population now being called shoal chub. A fish approximately 7.6 cm in length.

Distribution: Widespread in the Mississippi River basin and in streams of the western Gulf Slope of the United States.

Habitat: Usually found in large, low gradient, small to large rivers: over broad shallow riffles over sand or mud.

State Records: 20 populations found mostly in the Mississippi and Wisconsin rivers. All but one were last observed in 1980

or before.

Wolf River Basin Records: John Lyons reported the first observation in this basin in 2000.

Conservation Concerns: Uncertain.

river redhorse (*Moxostoma carinatum*) - Threatened, S2S3

Brief Description: Body moderately stout, usually round, often quite compressed in adult males; ventral line curved. Mouth ventral and horizontal; lips deeply plicate, folds almost always smooth, papillae absent; lower lip much broader than upper lip. Back bronze olive; sides and belly yellowish, brassy or browned. Caudal and dorsal fins red, lower fins orange to reddish orange. Scales usually with dark spots at their anterior exposed bases.

Distribution: Great Lakes Region extending south to the northern border of Texas, and west to central Kansas.

Habitat: Prefers large rivers and the lower portions of their main tributaries. It inhabits reservoirs, pools, and moderate to swift water over clear gravel and rubble. Seldom encountered in deeper waters with mud, silt, or sand bottoms.

State Records: Most collections are from the late 1970s/early 1980s from the major Wisconsin rivers. Collected from the Mississippi, St. Croix, Yellow, Chippewa, Wisconsin, Sugar, Rock, Fox, Black, Wolf, and Apple Rivers.

Wolf River Basin Records: 2 records from the early 1980s. John Lyons reported 3 observations in 2000.

Conservation Concerns: Uncertain.

greater redhorse (*Moxostoma valenciennesi*) - Threatened, S2S3

Brief Description: Largest of the redhorses (*Moxostoma* spp.). Somewhat compressed body, red tail, rows of dark spots on back and sides, large mouth and full lips. Back brown olive, sides golden, belly whitish. Adult size: 18 inches.

Distribution: Great Lakes region of the U.S. and Canada.

Habitat: Clear waters of small to large sized rivers, reservoirs and large lakes at depths of less than 3 feet (1m) over sand, gravel or boulders.

State Records: Widely scattered records from the Mississippi River and Lake Michigan drainage basins. Recent records from southeastern Wisconsin in the Illinois River drainage.

Wolf River Basin Records: 7 records from the mid 1990s back to 1926. John Lyons also reports 4 observations in the study area between 1997 and 2000.

Conservation Concerns: Sensitive to chemical pollutants and turbidity. Carp control programs may also be a threat.

pugnose shiner (*Notropis anogenus*) - Threatened, S2S3

Brief Description: Slender, fragile minnow with small and almost vertical upturned mouth, giving a distinctive pugnose appearance. Large eyes. Silvery with yellow cast dorsally, sides and belly silvery. Lead-colored lateral stripe extending from a small dark spot on base of tail, along sides and through eye. Adult length: 1.8 inches.

Distribution: Great Lakes region of the U.S west to eastern North Dakota.

Habitat: Prefer clear, weedy shoals of glacial lakes and streams of low gradient over sand, mud, gravel or marl. Characteristic vegetation includes pondweed, water milfoil, elodea, eelgrass, coontail, bullrush and filamentous algae.

State Records: Majority of records from far northwestern Wisconsin and southeastern Wisconsin. Apparently extirpated from the Rock River drainage. Recently found in the Manitowish River system.

Wolf River Basin Records: 7 older records from 1963-1971.

Conservation Concerns: Loss of littoral zone macrophyte communities and lakeshore development.

weed shiner (*Notropis texanus*) - Special Concern, S2S3

Brief Description: A small, moderately robust, slightly compressed shiner (fish). Mouth terminal, oblique, tip of upper lip extending to level of midpupil. Eye large. Back olive green with brassy tinge; silvery on sides, belly whitish. Lateral stripe extends through eye.

Distribution: Great Lakes Region, Mississippi River Basin, and Gulf of Mexico states.

Habitat: Sloughs, lakes, and the quiet or sluggish sections of medium-sized streams and larger rivers.

State Records: Mississippi River and Lake Michigan drainage basins. Uncommon in lower Wisconsin River, in the Mississippi River, and in the lower portion of their tributaries. Populations are widely disjunct. At northern limits of its range in WI.

Wolf River Basin Records: 11 older records from 1979. John Lyons reported 3 observations in 2000-2001.

Conservation Concerns: Apparently extremely sensitive to environmental deterioration or changes, although the factors causing this are not known.

pugnose minnow (*Opsopoeodus emiliae*) - Special Concern, S3

Brief Description: Adults 2.5" in length. Body color is straw-brown dorsally changing to silvery-yellow on the sides and belly, body is crosshatched in appearance, very blunt snout which is rounded in appearance with small mouth that is nearly vertical.

Distribution: Southeastern U.S. west to eastern Texas, north, following the Mississippi River Valley to central Wisconsin.

Habitat: Pugnose minnows prefer clear, vegetated water, where there is sluggish current. Backwater sloughs, lowland lakes, and connecting streams along the Mississippi flood plain offer ideal habitat.

State Records: Two widely separated population centers within the Mississippi River drainage basin. Found in backwaters of the Mississippi River, within the Red Cedar system of Dunn and Washburn Counties, and isolated areas of the southernmost tier of counties.

Wolf River Basin Records: 5 records from the 1970s and early 1980s. John Lyons reported 1 observation in 2000.

Conservation Concerns: Appears to be intolerant of excessive turbidity and siltation.

Mammals

prairie vole (*Microtus ochrogaster*) - Special Concern, S2

Brief Description: A vole with grayish to dark brown with a good mixture of tawny-tipped hairs. Head and body 3 ½ - 5 inches (89-127 mm), tail 1 – 1 2/5 inches (25-36 mm), weight 1 – 1 ½ ounces (28-42 g).

Distribution: Southwestern Canada south through Oklahoma, east to Ohio.

Habitat: Dry grassy areas along fence lines and in open fields; sandy prairies and slopes, especially if weed or grass grown; abandoned farm fields; seldom in sparsely wooded areas. Preferable habitat seems to be native prairie sod, of which there is little left in the State. It avoids marshes and wet places.

State Records: Southern and southwestern parts of the state, all known populations south of the tension zone.

Wolf River Basin Records: 1 historic museum record from 1898.

Conservation Concerns: Uncertain.

woodland jumping mouse (*Napaeozapus insignis*) - Special Concern, S2S3

Brief Description: Bright yellowish sides, brownish back, white belly, large hind feet, and a long white-tipped tail. Head and body 3 3/5-4 inches (91-102 mm), tail 5-6 1/5 inches (127-157 mm), weight 7/10-1 1/10 ounces (20-30) g.

Distribution: Northeastern Canada south to the northern Great Lakes Region, northeastern U.S., extending south along the Appalachian Mountain range.

Habitat: Forested or brushy areas near water, wet bogs, stream borders.

State Records: Scattered records from the northern half of the state, not known from Door County.

Wolf River Basin Records: 6 records from 1995.

Conservation Concerns: Uncertain.

western harvest mouse (*Reithrodontomys megalotis*) - Special Concern, S2

Brief Description: A small slender mouse with relatively large ears and prominent eyes. Tail length a trifle less than that of head and body, and about four times the length of the hind foot. Tail bicolor, with dark brown hair above, and dirty whitish below. Upper parts buffy brown, sides more clearly buff, and under parts white or nearly so. Feet white. Head and body 2 4/5 – 3 inches (71-56 mm), tail 2 – 2 3/5 inches (51-66 mm), 1/5 – 1/3 ounces (5-9 g).

Distribution: California and Mexico north to Washington, east to eastern Illinois.

Habitat: More or less open grassy places; neglected fields overgrown with grasses or sedges, weedy and grassy borders of cultivated tracts.

State Records: Most known occurrences are from the southwestern and south-central part of the state. Limits of range in the state are unknown.

Wolf River Basin Records: 1 record from 1976.

Conservation Concerns: Uncertain.

arctic shrew (*Sorex arcticus*) - Special Concern, S2

Brief Description: One of the most brilliantly colored and attractive shrews. The back, sides, and belly all contrast. In winter, tricolored, with back nearly black; in summer dull brown. Head and body 2 ¾ -3 inches (70-76mm), tail 1 ¼ - 1 2/3 inches (31-42 mm). Weight ¼ - 1/3 ounce (7-9 g).

Distribution: Canada and Alaska south into the northern Midwest states.

Habitat: Tamarack and spruce swamps. Sometimes in alder or willow marshes, rarely in leatherleaf-sphagnum bogs.

State Records: Mostly in the northern half of the state. Scattered records from the southern half of the state.

Wolf River Basin Records: 11 records from 1995-2000.

Conservation Concerns: Uncertain.

pigmy shrew (*Sorex hoyi*) - Special Concern, S3

Brief Description: A shrew with upperparts between sepia and brown, undersides smoke gray, tinged with light buff. Tail darkening toward the tip. By weight, probably the smallest living mammal, about the weight of a dime. Eyes: tiny black beads. Nose: pointed and long. Head and body 2 - 2 ½ inches, tail 1 - 1 2/5 inches (35-36 mm), weight 1/10 - 1/7 ounces

Distribution: Canada and Alaska south through northeastern U.S. and the Great Lakes Region, extending south along the Appalachian range.

Habitat: Among debris and heavy vegetation in woods, clearings, and meadows, particularly those grown to high grass. Avoiding swampy or excessively wet areas, though can be found in cold sphagnum or tamarack bogs.

State Records: 41 records scattered across the state.

Wolf River Basin Records: 9 records from 1995.

Conservation Concerns: Uncertain.

water shrew (*Sorex palustris*) - Special Concern, S2

Brief Description: A large (3-3.5") blackish-grey shrew, with underside paler, sometimes silvery. Stiff hairs along the sides of the feet distinguish from other Midwest shrews. Head and body 3 1/5 - 3 ½ inches (81-89 mm), tail 2 ½ - 3 inches (64-76 mm), weight 1/3 - ½ ounces (9-14 g).

Distribution: Northern U.S. and Canada. Extends south in the U.S. along the Rockies and the Appalachian Mountains.

Habitat: Marshes, bogs, and cold, small streams with cover along the banks.

State Records: Not common anywhere within range. Collected infrequently in the northern third tier of counties.

Wolf River Basin Records: 5 records between 1974 and 1995.

Conservation Concerns: Sensitive to water quality changes.

Franklin's ground squirrel (*Spermophilus franklinii*) - Special Concern, S2S3

Brief Description: A large, grayish ground squirrel with a tawny overwash on the back and the rump. Belly nearly as dark as back, tail fairly long. Much larger and darker than any ground squirrel in area. Head and body 9-10" (22.9-25.4 cm), tail 5-6" (12.7-15.2 cm), weight 10-25 oz (284-709 g).

Distribution: Central Indiana west through the Nebraska, south through Kansas, northwest into Canada.

Habitat: Dense grassy and shrubby near-dry marshland; dense marsh grass bordering sloughs, grassy borders of tamarack bogs; fields of grain and along old fencelines, sometimes in woods if sufficient undercover present.

State Records: Generally ranging in the southern and western parts of the state, but records from along lake Superior and from far southeastern Wisconsin exist.

Wolf River Basin Records: 1 record from 1990.

Conservation Concerns: Sheltering cover of tall grass or other herbage is a necessary condition.

Reptiles and Amphibians

Blanchard's cricket frog (*Acris crepitans blanchardi*) - Endangered, S1

Brief Description: A small tree frog (ca 1") with moist skin, warts on the dorsal surface, and the ventral surface in granular. Hind limbs are long in comparison to body size. Toes are extensively webbed, and the terminal discs are scarcely larger than the digits.

Distribution: Northern Mexico/southern northeast through central Ohio, north to central Wisconsin, west to southeastern New Mexico.

Habitat: Marshes along rivers and river floodplains, fens and low prairies usually near permanent water bodies or flowing water in open country. They prefer open mud flats and banks of streams where there is abundant emergent vegetation.

State Records: Historically it was widely distributed across the southern half for the state.

Wolf River Basin Records: 4 older records, the most recent observation was in 1983. A single frog heard in 2000 may have been introduced.

Conservation Concerns: Population has diminished rapidly. Reason for decline is unclear, but there is evidence that this species cannot survive under polluted conditions.

wood turtle (*Clemmys insculpta*) - Threatened, S3

Brief Description: A medium sized semi-terrestrial turtle with the upper shell sculptured into concentric ridges and grooves similar in appearance to wood grain.

Distribution: Canada, north central and northeastern U.S.

Habitat: Restricted to forested areas along fast moving streams. Nests in nearby open sand or gravel.

State Records: Essentially statewide. Rare in the southwest and east-central portions, absent in the southeast.

Wolf River Basin Records: 19 populations last observed between 2000 and 1982.

Conservation Concerns: Lack of secure nesting habitat. Road kills. Harvesting for pet trade and or human consumption. Water quality degradation. Disturbance of nesting areas during incubation period. High densities of mammalian nest predators. Management opportunities might include protection of traditionally used nest sites.

northern ringneck snake (*Diadophis punctatus edwardsii*) - Special Concern, S3?

Brief Description: A slender snake with a yellow, cream, or orange neck ring and bright yellow, orange, or occasionally red belly. The underside is free of markings or may be marked with an irregular row of black spots. Spots are more common where this subspecies intergrades with the prairie ringneck snake (*Diadophis punctatus arnyi*). The neck ring may be interrupted, obscure, or occasionally absent. Adults are 12-15" long.

Distribution: This subspecies ranges from far southeastern Canada and northeastern U.S. west to northeastern Minnesota and south to northern Alabama.

Habitat: Northern Ringneck Snakes prefer to live in moist areas in forests, grasslands, cut over areas, rocky wooded hillsides, or ledges along streams. They are most often seen under flat rocks, logs, or the loose bark of dead trees. They are believed to be highly fossorial.

State Records: Specimens verified from twenty-six counties, distributed mainly north of the tension zone. Populations from the southern central and southeastern counties are believed to be extirpated. This subspecies apparently does not extend into the driftless area.

Wolf River Basin Records: 5 records from the late 1990s.

Conservation Concerns: Uncertain.

Blanding's turtle (*Emydoidea blandingii*) - Threatened, S3

Brief Description: Medium size turtle with a bright yellow underside of its neck. Its head, tail, and limbs are blue-black, while the underside of its shell (or plastron) is yellow, with brown or black splotches, and is hinged. Its upper shell (or carapace) is usually black speckled with yellow, or horn colored and mottled with brown.

Distribution: Great Lakes Region extending west through Iowa. Disjunct population in Massachusetts, and southeastern New Hampshire and Maine.

Habitat: A semi-aquatic turtle that prefers open, grassy marshes containing shallow water, but will move to ground adjacent to water to forage or bask.

State Records: Ranges across most of the state in appropriate habitat, except for far northern tier of counties. 177 records.

Wolf River Basin Records: 36 populations last observed in 2000 and 2001.

Conservation Concerns: Uncertain.

four-toed salamander (*Hemidactylium scutatum*) - Special Concern, S3

Brief Description: A small brown to rich red-brown terrestrial salamander with the underside porcelain white with irregular black flecks. Four rather than five toes on the hind feet distinguish this from all other terrestrial WI salamanders.

Distribution: Found in the eastern U.S. and southeastern Canada.

Habitat: Requires moist, mature, usually deciduous forest with high quality leaf litter and an abundance of downed wood in advanced stages of decomposition. These forests must also contain appropriate breeding sites, which are typically woodland ponds or seeps with abundant mosses. Nesting habitat is usually in sphagnum moss mounds directly adjacent to shallow fresh cool water.

State Records: There are about 40 records for the state from twenty-two counties, but most of those from southern WI are old and need to be verified. As a result, this species was recently added to the NHI Working List as status undetermined.

Most recent records are from inventories conducted for state forest master plans in the NW, NE and WC parts of the state. The recent discovery of their breeding habitat has resulted in many of these new records.

Wolf River Basin Records: 5 records from the early 1980s to the mid 1990s.

Conservation Concerns: Timber harvesting practices resulting in increased light and decreased humidity, canopy openings or reduced downed wood, wetland modification (draining, impoundment, dredging), or alteration of water quality.

western slender glass lizard (*Ophisaurus attenuatus*) - Endangered, S2

Brief Description: A lizard with a snake-like appearance with a long tan, brown, or bronze cylindrical body with no limbs, pointed snout, and narrow head. A dark brown to black stripe runs along the middle of the back from head to tail. Two additional stripes run immediately above the lateral groove and four narrow stripes run below the groove. Unlike a true snake it has eyelids and external ear openings, plus the ability to shed part of its tail. Average total length 18-24 inches, although they may reach 36 inches, two-

thirds of, which may be tail.

Distribution: South central U.S. from southern Texas north through most of Indiana. Disjunct population in west-central Wisconsin.

Habitat: Oak savannas, sand prairies, old fields, and pine barrens in central Wisconsin.

State Records: There are 45 records from a band of central Wisconsin counties extending from LaCrosse County in the west to Waushara County in the east.

Wolf River Basin Records: 2 records from 1989 and 1973.

Conservation Concerns: Urban and agricultural development have contributed to their decline.

bullfrog (*Rana catesbeiana*) - Special Concern, S3

Brief Description: Largest North American frog. Plain or nearly plain green above, or with a netlike pattern of gray or brown on a green background. No dorsolateral ridges on trunk.

Distribution: Eastern and central North America. Introduced widely outside their range.

Habitat: A wide variety of wetlands and vegetated edges of open water bodies.

State Records: Widely distributed and scattered throughout the state in appropriate habitat. Widely introduced, and it is difficult to distinguish natural populations from introduced ones.

Wolf River Basin Records: 1 record from 1986.

Conservation Concerns: Uncertain.

Terrestrial Invertebrates

bog fritillary (*Boloria eunomia*) - Special Concern, S3

Brief Description: A fritillary butterfly with a nonmetallic white pattern on the undersides; with a submarginal row of black outlined, white spots.

Distribution: Canada, Alaska, western montane and northern most portions of U.S.

Habitat: Open bogs with cranberry and other ericaceous components.

State Records: Known from 46 sites in seven Wisconsin counties in the 1980s and 1990s. Previously collected in one additional county in the 1970s. All collections have been made in far northern Wisconsin.

Wolf River Basin Records: 7 records from the late 1990s to present.

Conservation Concerns: Activities that alter natural hydrological or biological properties of the known site.

Henry's elfin (*Callophrys henrici*) - Special Concern, S2

Brief Description: Small and brown butterflies, with a straight white line at the top of the ventral forewing.

Distribution: Has a wide range, but is rare through-out. Found in Quebec and south to Florida and Texas, and west to Michigan, Wisconsin, Nebraska, Kansas, and Missouri.

Habitat: Pine barrens. Host plants possibly are Vacciniums and or maple-leaved viburnum in Wisconsin.

State Records: 12 records in the state, half in the 1990s, all in the northern half of the state.

Wolf River Basin Records: 1 record from 1990.

Conservation Concerns: Uncertain.

a land snail (*Catinella gelida*) - Special Concern, S1S2

Brief Description: A very small terrestrial snail.

Distribution: Known from very few sites in South Dakota, Iowa, and Wisconsin.

Habitat: Appears to be restricted to moist, soil covered ledges in Wisconsin.

State Records: There are 14 records, all from east central Wisconsin.

Wolf River Basin Records: 1 record from 1997.

Conservation Concerns: Uncertain.

gorgone checker spot (*Chlosyne gorgone*) - Special Concern, S3

Brief Description: Underside hindwing of butterfly with zigzag pattern of alternation brown and white bars and scallops.

Distribution: Midwest and southern U.S. and south-central Canada. Basically a broad area of the continental interior of the U.S. west of the Appalachians and east of the Rockies.

Habitat: Prairies, open ridges, glades in deciduous woods, waste areas. Hostplants: Helianthus, Ambrosia, Iva, and Viguiera spp.

State Records: There are 38 known records from the state, most in the southern half of the state.

Wolf River Basin Records: 4 records from the 1990s to 2000.

Conservation Concerns: Uncertain.

little white tiger beetle (*Cicindela lepida*) - Special Concern, S2S3

Brief Description: A small tiger beetle, 10-11 mm in length, brown background with greatly expanded white markings so beetle often appears mostly white.

Distribution: Central Plains, SW to Arizona, NE to New York and Eastern Coast.

Habitat: In WI sandy areas, blowouts and dunes. Also reported from beaches and streamsides.

State Records: 13 state records, all post 1970 and in the central to south-central part of the state.

Wolf River Basin Records: 1 record from 2000.

Conservation Concerns: Tree planting or other sand blow stabilization practices and general succession from bare soil to vegetation.

a tiger beetle (*Cicindela patruela huberi*) - Special Concern, S3

Brief Description: A large tiger beetle with muddy green to brown to black coloration as opposed to the bright green of the more northern *C. patruela patruela*.

Distribution: Endemic subspecies to central WI.

Habitat: Semi open pine barrens or dry oak woodlands where open ground exists, such as along trails.

State Records: 79 records in the state, mostly from the central portion.

Wolf River Basin Records: 9 records from 1965 to 2000.

Conservation Concerns: The main threat to this species is habitat destruction due to deforestation and fire suppression (ecological succession eliminates some habitats).

a tiger beetle (*Cicindela patruela patruela*) - Special Concern, S2

Brief Description: A large tiger beetle with bright green coloration as opposed to the muddy green to brown to black of the *C. patruela huberi*.

Distribution: This subspecies is endemic to central Wisconsin and reaches its northern and eastern range

limit in the Wolf River basin.

Habitat: Open jack-pine and or dry oak woodlands where open ground exists, with an understory of bracken fern, ericaceous shrubs, lichens and dry mosses. Typical sites are along fire lanes through medium aged jack-pine woods.

State Records: 15 populations are documented in the state. They occur mostly north of the tension zone.

Wolf River Basin Records: 6 current populations are found in the study area.

Conservation Concerns: The main threat to this species is habitat destruction due to deforestation and fire suppression (ecological succession eliminates some habitats).

Appalachian pillar (*Cionella morseana*) - Special Concern, S2

Brief Description: A very small terrestrial snail.

Distribution: Scattered records throughout eastern North America excluding most of the far south. Mainly found in the upper Great Lakes Region and along the Appalachian range.

Habitat: Usually found in moist upland woods. Rarely found on the surface of the leaf litter.

State Records: There are 6 known occurrences, all in the northern half of the state.

Wolf River Basin Records: 1 record from 1997.

Conservation Concerns: Uncertain.

columbine dusky wing (*Erynnis lucilius*) - Special Concern, S2

Brief Description: Upperside forewing with brown patch at end of cell relatively indistinct. Underside hindwing with marginal and submarginal rows of pales spots very distinct. Difficult to distinguish from other species of the “Persius” complex.

Distribution: The Great Lakes region and northeastern U.S.

Habitat: Ravines or gullies in rich deciduous or mixed woods or their edges.

State Records: There are 12 known records, from eight counties, the majority from southwestern Wisconsin.

Wolf River Basin Records: 1 record from 1991.

Conservation Concerns: Uncertain.

Persius dusky wing (*Erynnis persius*) - Special Concern, S2

Brief Description: A dusky wing butterfly. Forewing with patch at end of cell more gray than brown. Male forewing with numerous raised white hairs.

Distribution: The Great Lakes region and northeastern U.S., along the West Coast from southern U.S. border north to Alaska. Absent from a large part of the central U.S.

Habitat: Open areas, marshes, seeps, and sand plains. Hostplant: Lupinus, Salix, and Populus spp.

State Records: There are 23 known records, from nine counties, the majority from the central sand region of the state.

Wolf River Basin Records: 2 records from the early 1990s.

Conservation Concerns: Uncertain.

two-spotted skipper (*Euphyes bimacula*) - Special Concern, S2S3

Brief Description: A skipper butterfly. Forewings pointed. Fringe white. Upperside of male forewing with limited tawny patch; female dark, forewing with two pale spots. Underside of hindwing orange-brown.

Veins paler.

Distribution: Northeast, upper Midwest, and east coast of U.S.

Habitat: Wet sedge meadows, marshes, and bogs. Hostplant sedges: *Carex trichocarpa*, assoc. with *C. stricta*.

State Records: There are 10 known records, from 8 counties, mostly from the eastern third and southern half of the state.

Wolf River Basin Records: 2 records, 1 from 1989 and 1 from 1994.

Conservation Concerns: Uncertain.

dion skipper (*Euphyes dion*) - Special Concern, S3

Brief Description: A variable species. Upperside of male forewing with restricted orange. Hindwing dark brown with broad orange streak. Underside of hindwing red-brown or orange-brown with two yellow-orange rays, one through cell and the second above anal fold.

Distribution: Eastern half of U.S. excluding much of New England, the Florida peninsula, and the Appalachian mountain range.

Habitat: Open marshes, bogs, and swamps.

State Records: There are 27 known records, the majority from the southern third of the state and counties bordering Lake Michigan.

Wolf River Basin Records: 8 records from the 1990s and 2000s.

Conservation Concerns: Uncertain.

sculpted glyph (*Glyphyalinia rhoadsi*) - Special Concern, S2

Brief Description: A very small terrestrial snail.

Distribution: Northern Wisconsin and Michigan, New England, and south along the Appalachian range. Scattered other records along the east coast of North America.

Habitat: Generally found in leaf litter in upland woods.

State Records: There are 5 records, from 3 counties, for this species. All from east-central WI.

Wolf River Basin Records: 1 record from 1997.

Conservation Concerns: Uncertain.

Midwestern fen buckmoth (*Hemileuca sp 3*) - Special Concern, S3S4

Brief Description: A large, day-flying moth with light gray to black wings with yellow to white markings. WI populations have been referred to in the past as *H. maia* and *H. nevadensis*.

Distribution: Known from NE Indiana to Michigan and Wisconsin, and NE Ohio, and NW Pennsylvania.

Habitat: In WI, found in bogs and fens and oak barrens. Reported feeding on willow, oak, bog bean, and purple loosestrife.

State Records: 7 records occur throughout the state, half are recent occurrences.

Wolf River Basin Records: 1 record from 1974 just outside the basin boundary, but due to this species habitat preference it is probable that it also occurs within the basin.

Conservation Concerns: Uncertain.

Laurentian skipper (*Hesperia comma*) - Special Concern, S2

Brief Description: A skipper.

Distribution: Found throughout the northern U.S. and Canada.

Habitat: Generally found in forests confined to openings.

State Records: 14 populations documented in the northern tier of the state. All populations are from the late 1980s to present.

Wolf River Basin Records: 8 current populations found in the northern tip of the study area.

Conservation Concerns: Unknown.

Leonard's skipper (*Hesperia leonardus leonardus*) - Special Concern, S3

Brief Description: A rich, tawny orange butterfly with thick black margins.

Distribution: Scattered in small colonies from New England and Ontario, west to Kansas, and south as far as Florida.

Habitat: Localized populations in damp meadows, open fields, and roadsides. Hostplants are a wide variety of grasses.

State Records: 8 records in the south and central portions of the state.

Wolf River Basin Records: 5 records from the mid 1990s to 2000.

Conservation Concerns: Uncertain.

northern blue butterfly (*Lycaeides idas nabokovi*) - Endangered, S1

Brief Description: Nearly indistinguishable from the Karner Blue Butterfly (*Lycaeides melissa samuelis*). Male is purple blue on the upper wings, the female is gray-brown with some blue near the body. The underside of the wings are dull gray speckled with black spots and the hind wing has a band of orange crescents inside blue spots along the entire margin. Adult wingspan about 1.15-1.45 inches (30-36 mm).

Distribution: Western and central Canada, south into the U.S. in Minnesota and Wisconsin, and a few states in the West.

Habitat: Only found in association with its larval host plant, dwarf bilberry (*Vaccinium caespitosum*). Host plant occurs in small patches beneath scattered pine on deep, sandy soil in association with bracken, sweet fern, and strawberry.

State Records: About half a dozen records in 5 northeastern counties.

Wolf River Basin Records: 2 records, one from 1994 and a historic one from 1921.

Conservation Concerns: Host plant is also state endangered. Timber harvest, planting and piling of logs should be avoided on the few sites supporting populations. Timber harvest in the general area should be discouraged during the time when puddling male

Karner blue butterfly (*Lycaeides melissa samuelis*) - Special Concern, S2S3

Brief Description: A bluish, sexually dimorphic butterfly. Underside of both wings with continuous black subterminal line. Red-orange submarginal row broken into separate spots.

Distribution: Isolated populations from Wisconsin east to central New York and southern New Hampshire.

Habitat: Pine/oak barrens. Lupine is a required larval food plant.

State Records: There are approximately 300 records of this species from WI. The vast majority from the central sands region of the state, ranging NW through Burnett County.

Wolf River Basin Records: 37 records, all but one are recent.

Conservation Concerns: Barrens and dry forest management, ATV use, utility and road maintenance. Management in WI is largely overseen by the U.S. Fish and Wildlife Service's Habitat Conservation Plan.

dorcas copper (*Lycaena dorcas*) - Special Concern, S2

Brief Description: Sexually dimorphic. Upperside of male has blue-purple iridescence. Female is brown with limited light areas. Red-orange border on hindwing limited to a few spots.

Distribution: Mainly a Canadian species, ranges south into the northern Great Lakes region.

Habitat: Brushy old fields, fringes of bogs, open areas near streams.

State Records: There are 18 records, from 7 counties, of this species. All records from far northern counties.

Wolf River Basin Records: 4 records from 1988-1994.

Conservation Concerns: Loss and drainage of wetlands with shrubby cinquefoil.

bog copper (*Lycaena epixanthe*) - Special Concern, S2S3

Brief Description: A small butterfly with upper side purple iridescent in males, mouse gray brown in females, underside pale tan or white and hindwing with tiny black spots and a zigzag red-orange border.

Distribution: Great Lake area of U.S. and Canada and northeastern U.S.

Habitat: Open bogs with cranberry and other ericaceous components. Hostplant: *Vaccinium* spp.

State Records: Known from 46 sites in WI, mostly in the northern third of the state.

Wolf River Basin Records: 11 recent records from the mid 1990s to 2001.

Conservation Concerns: Activities that alter natural hydrological or biological properties of the known site.

an owlet moth (*Macrochilo bivittata*) - Special Concern, S3

Brief Description: A noctuid moth.

Distribution: Widespread from New Brunswick to Manitoba and south into northern tier of US states, especially Maine.

Habitat: Habitats seem to be sedge meadows, apparently usually circumneutral to calcaerous.

State Records: 4 populations documented from the mid 1990's to present, are in the central portion of the state, except for one in Douglas County.

Wolf River Basin Records: 1 population documented in the mid 1990s.

Conservation Concerns: Probably impacted by massive indiscriminant spraying for spruce budworm in Maine, at least formerly.

Newman's brocade (*Meropleon ambifuscum*) - Special Concern, S3

Brief Description: A nocturnal moth.

Distribution: Midwest to Connecticut.

Habitat: Virtually nothing known about this apparently rare species. Congeners bore in grasses or sedges and knowing which species this uses might improve inventory success.

State Records: 15 of the 16 state records occur in the southern half of the state.

Wolf River Basin Records: 1 record from 1994.

Conservation Concerns: Uncertain.

jutta arctic (*Oeneis jutta*) - Special Concern, S3

Brief Description: A butterfly variable in coloration. Above, gray-brown. Both wings with yellow-orange

submarginal band (usually interrupted). Variable number of small eyespots, more on forewing than hindwing.

Distribution: Holarctic. In North America the northern Great Lakes region, and south along the western montane region.

Habitat: Black spruce and sphagnum bogs and central poor fens. Seems to like small wooded islands in setting of open bog or fen. Hostplant sedges: *Eriophorum*, *Carex*, and *Juncus* spp.

State Records: Known from 43 sites in the 1990s, all from eleven far northern Wisconsin counties.

Wolf River Basin Records: 9 records from the mid 1990s to 2000.

Conservation Concerns: Increased sedimentation, water quality degradation, mossing, and water level alterations.

tawny crescent spot (*Phyciodes batesii*) - Special Concern, S3

Brief Description: Antennal knobs black and white. Upperside of males darker than the two pearl crescents with forewing postmedian band pale orange, contrasting with orange submarginal band. Hindwing of male with yellow-tan ground, that of female with submarginal row of black points.

Distribution: Appalachian Mountain range, Great Lakes Region, west along the northern tier of U.S. states extending into the southern half of Canada.

Habitat: Moist meadows and pastures, dry rocky ridges.

State Records: Known from 13 occurrences in seven far northern counties.

Wolf River Basin Records: 6 records from the 1990s and 2000.

Conservation Concerns: Uncertain.

West Virginia white (*Pieris virginiensis*) - Special Concern, S2

Brief Description: Wings translucent. Forewing rounded. Underside of hindwing veins indistinctly lined with brown or brown-gray.

Distribution: Great Lakes Region, western New England, south along the Appalachian Mountain range.

Habitat: Moist, rich, deciduous woodlands or mature mixed woods.

State Records: There are 16 records, all records are from 5 far northern counties.

Wolf River Basin Records: 8 records from the early to mid 1990s.

Conservation Concerns: Groundlayer disturbance in northern mesic forests. Restricted by distribution of larval food plant *Dentaria* sp.

greenish blue (*Plebejus saepiolus*) - Special Concern, SU

Brief Description: Sexually dimorphic. Upperside of males green-blue, females brown with blue at base. Underside gray-white with postbasal and submarginal rows of irregular black spots.

Distribution: Almost all of Canada, western North America, south into the northern Great Lakes region and northern Maine.

Habitat: Stream edges, bogs, roadsides, open fields.

State Records: There is only one known occurrence in the state.

Wolf River Basin Records: 1 record from 1994.

Conservation Concerns: Uncertain.

mulberry wing (*Poanes massasoit*) - Special Concern, S3

Brief Description: A butterfly with rounded wings. Black with tiny (male) or slightly larger (female) spots. Underside hindwing with large irregular yellow central patch.

Distribution: Coastal southern New England and upper mid-Atlantic states. Great Lakes region extending west into southern Minnesota, northern Iowa, and the eastern edge of the Dakotas.

Habitat: Freshwater marshes or bogs. Hostplant sedge: *Carex stricta*.

State Records: There are 45 records, widely scattered, but absent from northern and far western WI.

Wolf River Basin Records: 10 records from the 1990s and 2000.

Conservation Concerns: Wetland loss, alteration.

broad-winged skipper (*Poanes viator*) - Special Concern, S3

Brief Description: Large rounded wings. Forewing primarily dark with small cream spots and small yellow-orange area. Hindwing primarily orange with black border. Veins black lined.

Distribution: Upper Midwest along the great lakes, Atlantic coast from New England to Florida, and Gulf Coast states. Largely absent from the interior of the Midwest/mid-Atlantic states.

Habitat: Freshwater and brackish marshes.

State Records: There are 18 records, all from southern and east-central counties.

Wolf River Basin Records: 16 records from the 1990s and 2000.

Conservation Concerns: Wetland loss, alteration.

little glassy wing (*Pompeius verna*) - Special Concern, S1?

Brief Description: Black or black brown. Upperside: Male forewing with black stigma with several transparent white spots above and below, including a large one below end of stigma. Female with square transparent spot at end of cell.

Distribution: Eastern, Southern (excluding the Florida peninsula), and Midwestern U.S., mostly east of the Mississippi.

Habitat: Grassy (usually moist) areas near shaded wood edges.

State Records: There are 8 records from eight counties, ranging all over the state from Douglas to Grant to Waukesha

Wolf River Basin Records: 1 record from 1991.

Conservation Concerns: Uncertain.

smokey eyed brown (*Satyrodes eurydice fumosa*) - Special Concern, S2

Brief Description: Brown. Forewing with eyespots in submarginal row approximately equal, usually touching or in chainlike sequence. Five eyespots on the underside of the hindwing submarginal row.

Distribution: Northeastern U.S., Great Lake Region, northern Midwest, and adjacent Canada.

Habitat: Freshwater marshes, sedge meadows, slow-moving streams or ditches.

State Records: There are 7 records, from 4 counties. Most records are from far northern WI.

Wolf River Basin Records: 5 records from 1994.

Conservation Concerns: Wetland alteration, forestry and development.

bina flower moth (*Schinia bina*) - Special Concern, S2S3

Brief Description: A pale olive, fuzzy, wedge-shaped, day-flying moth; front-wings with rose purple shading and lighter outer edges; hind wings black with a large yellow spot.

Distribution: Mostly southern U.S. with a population in WI.

Habitat: Pine barrens, old fields?.

State Records: One record from the western edge of the Wolf Basin and other records from northern WI.

Wolf River Basin Records: 1 record from 1996.

Conservation Concerns: Host plant unknown.

phlox moth (*Schinia indiana*) - Endangered, S2?

Brief Description: A striking, purple, medium-sized moth.

Distribution: Reported from Indiana, Illinois, North Carolina, Arkansas, Texas, Nebraska, Wisconsin, Minnesota, and Michigan. Only Wisconsin, Minnesota, and Michigan currently report having populations.

Habitat: Roadsides, scrub-oak pine barrens and prairies with *Phlox pilosa*, the larvae's food plant.

State Records: There are 22 records from 5 counties, most from the central sands region of the state.

Wolf River Basin Records: 1 record from 1992.

Conservation Concerns: Roadside maintenance.

northern marbled locust (*Spharagemon marmorata*) - Special Concern, S2S3

Brief Description: A locust with basal area of hind-wings yellow, with broad outer dark band. Overall body color variable. Pale bands on forewing do not cross the wing.

Distribution: Wisconsin's subspecies ranges from Minnesota east into southern Canada and New England, and south along the Atlantic Coast through New Jersey.

Habitat: Variable within range. Often on bare sand or open scrub, in Michigan it was found among bracken fern and blueberry in an open forest. Often associated with lichens in open habitats.

State Records: There are 10 records from five counties. Mostly in the west-central portion of the state with one outlier in Shawano county.

Wolf River Basin Records: 1 record from 1999.

Conservation Concerns: Barrens and sand blow management (see *Cicindela lepida*).

ash-brown grasshopper (*Trachyrhachys kiowa*) - Special Concern, S2

Brief Description: A grasshopper with hind-wings variable in color. A technical key is needed to distinguish this species.

Distribution: Southwestern Canada south to central Mexico, and in the U.S. from California east to Virginia.

Habitat: Bare gravelly ground.

State Records: There are only 4 known records from the state. Three from the central sands and one from Waupaca.

Wolf River Basin Records: 1 record from 1999.

Conservation Concerns: Barrens, sand blow alterations. (see *Cicindela lepida*).

seaside grasshopper (*Trimerotropis maritima*) - Special Concern, S2

Brief Description: Populations along the Great Lakes are yellowish. Identification of the species only possible with technical guides.

Distribution: Widespread in eastern, central, and southern U.S., west to eastern Arizona, north to

Wisconsin and Ontario.

Habitat: Usually along sandy shores.

State Records: There are 2 known records from the state.

Wolf River Basin Records: 1 record from 1998.

Conservation Concerns: Uncertain.